

Remarks

Claims 1, 3, 16, 17, 18, 19, 20, 22, 35 to 39, 41, 48, 50, 57 and 58 have been amended. Claims 6, 7, 25, 26, 44, 45, 53 and 54 have been cancelled without prejudice or disclaimer of the subject matter recited therein. Applicants reserve the right to pursue the cancelled subject matter in one or more continuation applications. Claims 59 to 65 remain withdrawn.

The amendments to claim 1 that deleted the term “not” in the proviso, replace the phrase “the rings comprise” with “each ring in the ring structure consists of”, and the deletion of the indicated chemical group from the recited list of L_2 have been made to more clearly define Applicants’ claimed invention. The amendment to claims 1 that replaces the definition of the variable W with specific chemical groups finds support, *inter alia*, in claims 6 and 7 (now cancelled) as well as in Examples 16, 28, 46, 83 and 84, and was also made to more clearly define Applicants’ claimed invention.

The amendment to claim 3 replaces the recited terms “comprising” and “functionalized” with alternative language.

The amendments to claims 16 to 19 delete the term “comprises” and increase the dependency of the claims.

The amendments to claim 20 address the variables L_2 and W as described above for claim 1.

The amendment to claim 22 replaces the recited terms “comprising” and “functionalized” with alternative language.

The amendments to claims 35 to 37 delete the term “comprises” and increase the dependency of the claims.

The amendment to claim 38 addresses the variable W as described above for claim 1.

The amendment to claim 41 replaces the recited terms “comprising” and “functionalized” with alternative language.

The amendment to claim 48 addresses the variable W as described above for claim 1.

The amendment to claim 50 replaces the recited terms “comprising” and “functionalized” with alternative language.

The amendment to claim 57 more clearly defines Applicants’ claimed invention.

The amendment to claim 58 identifies specific claims upon which claim 58 depends. None of the above-identified amendments add new matter to the claims.

1. **Claim Objections**

Claim 58 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative.

Applicants have amended claim 58 so that it is dependent from any one of independent claims 1, 20, 39 and 48. In view of this amendment, Applicants respectfully request that this objection be withdrawn.

2. **Claim Rejections under 35 U.S.C. § 112, second paragraph**

Claims 1, 3, 6, 16 to 19, 22, 25, 35 to 38, 41, 44, 50, 53, 56 and 57 are rejected as allegedly indefinite based on recitation of the following terms:

A. **“Comprising”**

The Examiner asserts that use of the term “comprising” in the compound claims fails to exclude unrecited elements.

Applicants have amended the claims to replace “comprising” with “consisting of” where appropriate to more clearly define the claimed invention.

B. **“Functionalized”**

The Examiner asserts that the metes and bounds of the term “functionalized” alleged cannot be ascertained.

Applicants have amended the claims to remove this contested term.

C. **“Cationic center”**

The Examiner asserts that the metes and bounds of the term “functionalized” alleged cannot be ascertained.

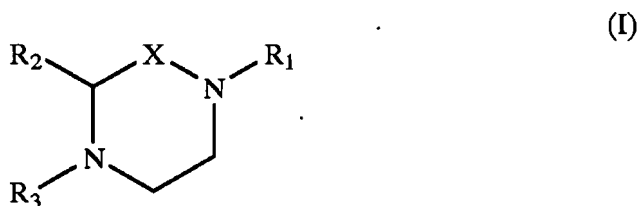
Applicants have amended the claims to remove this contested term and replace it with “substituted”.

In view of the amendments described in A, B and C above, Applicants respectfully request that these rejections under 35 U.S.C. 112, second paragraph, be withdrawn.

3. **Provisonal Rejection under Obviousness-type Double Patenting**

Claims 1 to 9, 20 to 26, 28, 39 to 41, 44, 45, 48 to 50, 52 to 54 and 58 are provisionally rejected as allegedly unpatentable over claims 1 to 10, 12, 13, 14, 20 to 28, 30, 32 and 3 to 40 of copending Application No. 11/099,814 ("the '814 application"). The Examiner asserts that substituents R_2 , R_3 , W and L_2Q as claimed in the subject application correspond similarly to y , R_6 , R_7 and W , of the '814 application, with an overlap where R_2 is, for example, $(CH_2)_yW$, where W is as defined and R_3 is L_2Q , where L_2 is the linker $-CH_2-CH(NH_2)-CH_2-$ and L_1-J and the other variables are as defined.

Applicants submit that there is no overlap between the claimed compounds of the subject application and the claimed compounds of the '814 application. In the subject application, the compounds of claim 1 are encompassed by the structural formula I as shown below:



wherein

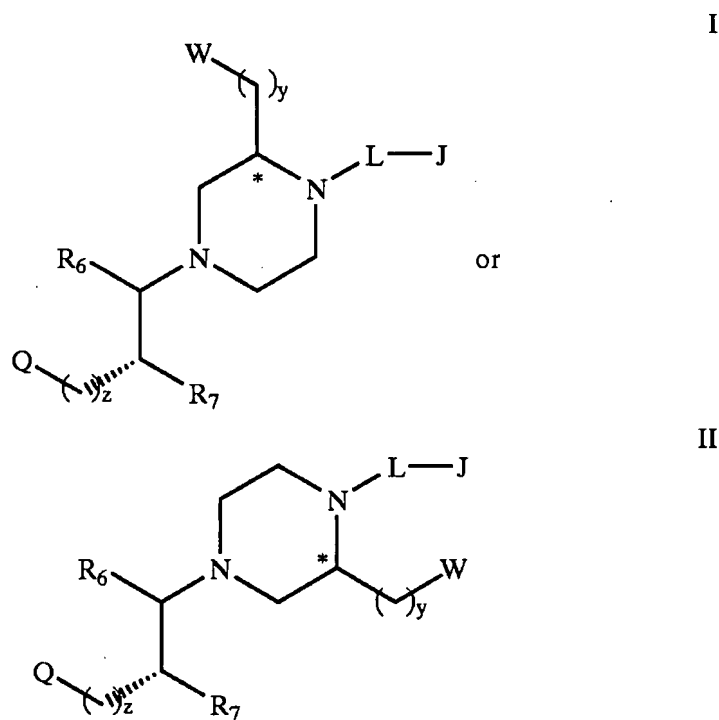
R_1 is defined as $-L_1-J$. If X is CH_2 , R_1 can also be H;

R_2 is defined as $(CH_2)_y-W$. If X is CH_2 , R_2 can also be H or $-L_1-J$;

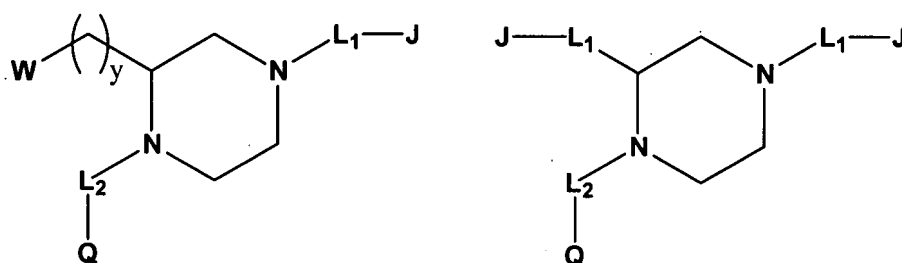
R_3 is defined as $-L_2-Q$; and

R_1 and R_2 cannot both be H.

Claim 1 of the '814 application recites compounds having the structure of either formula I or formula II as shown below:



It's readily apparent that since neither formula I nor formula II of claim 1 of the '814 application allows for a carbonyl (C=O) functionality in the depicted rings, then for the closest possible comparison of claim 1 of the '814 application to claim 1 of the subject application, formula I in the subject application must be restricted to compounds where X is CH₂ only. Accordingly, the possibilities for formula I of the subject application, incorporating the definitions of R₁, R₂ and R₃ as set out above (in addition to the restriction of X being CH₂) are as shown below:

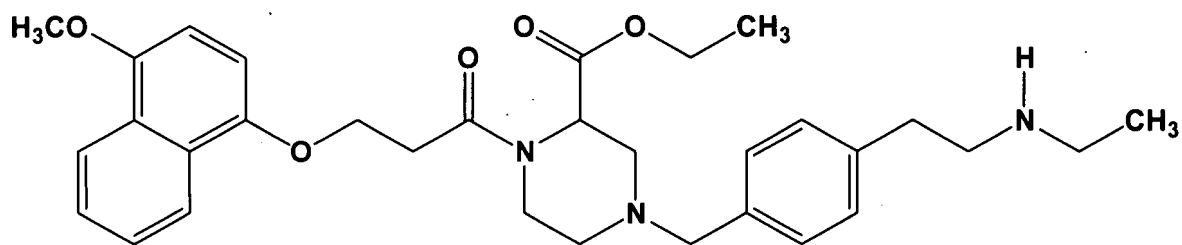


The compounds represented by either R₁ or R₂ = H have not been included since such compounds would result in only di-substituted compounds which are clearly distinguishable

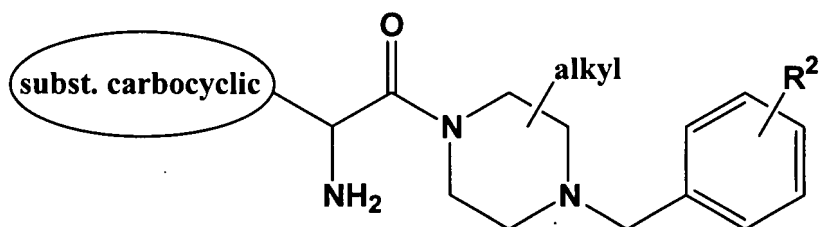
over the tri-substituted compounds of claim 1 of the '814 application. In comparing the two above-depicted structures of compound 1 of the subject application with the two above-depicted structures (formulae I and II) of the '814 application, it is readily apparent that all the structures, except for one of the structures of the subject application, contain a $-(CH_2)_y-W$ functionality. Thus, this structure (with two $-L_1-J$ functionalities) can be eliminated from consideration. Therefore, all that remains for comparison is one structure of the subject application with formulae I and II of the '814 application. A closer analysis of these structures reveals that both structures of the '814 application have the $-(CH_2)_y-W$ functionality adjacent on the piperazine ring to the $-L_1-J$ functionality. In contrast, in the depicted structure of the subject application, these two functionalities are separated by a CH_2 ring group. Therefore, there is no overlap between the compounds claimed in the subject application and the compounds claimed in claim 1 of the '814 application. Applicants note that the structural formulae III, IV, V and IV as recited in independent claims 13 and 27, respectively, of the 814 application also show the $-(CH_2)_y-W$ functionality adjacent on the piperazine ring to the $-L_1-J$ functionality. Therefore, there is no overlap between the compounds claimed in the subject application and the compounds claimed in any of the claims of the '814 application. Accordingly, Applicants respectfully request that this rejection be withdrawn.

4. Rejection under 35 U.S.C. 103(a)

Claims 1 to 10, 20 to 29, 39 to 46 and 48 to 55 are rejected as allegedly obvious over U.S. Patent No. 6,207,665 to Bauman *et al.* ("Bauman"). According to the Examiner, Bauman reads on Applicants' claims when R^3 is a substituted carbocyclic system; R^4 is a bond; R^5 is a methylene chain substituted by $N(R^7)_2$ where R^7 is hydrogen; R^6 is $C(O)$; and R^{1a} is alkyl. The Examiner then indicates that "homologous species" are described in columns 25 and 31 to 41 of Bauman and depicts the following molecules as a homologous species:



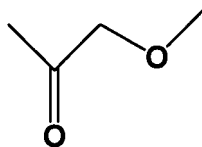
Applicants submit that Bauman does not read on Applicants' claims as asserted by the Examiner when R^3 is a substituted carbocyclic system; R^4 is a bond; R^5 is a methylene chain substituted by $N(R^7)_2$ where R^7 is hydrogen; R^6 is $C(O)$; and R^{1a} is alkyl. Such a molecule would have the following general structure:



In comparing the above molecule to Applicants' claimed compounds, R^{1a} of Bauman would likely most closely correspond to R_2 in Applicants' structural formula (I) of claim 1. Applicants point out that as recited in claim 1, when $X = CH_2$, R_2 can be either H or $-(CH_2)_y-W$ or $-L_1-J$. None of these possibilities for R_2 can be simply "alkyl". Therefore, at least for this reason, the generic Bauman structure proposed by the Examiner cannot read on Applicants' claims. Further, $R^3-R^4-R^5-R^6$ of Bauman would likely most closely correspond to R_3 in Applicants' structural formula (I) of claim 1. R_3 is defined as being $-L_2-Q$, where linker L_2 may be chosen from a limited number of linking groups. None of these choices for L_2 include the particular arrangement of atoms chosen by the Examiner (*i.e.*, $-C(O)-CH(NH_2)$ -substituted carbocyclic) in the above-depicted generic Bauman structure. Therefore at least for this second reason, the generic Bauman structure proposed by the Examiner cannot read on Applicants' claims and is distinguishable to the extent that a person of ordinary skill in the art would not be motivated to prepare Applicants' claimed compounds without any expectation of success.

Applicants also submit that the homologous species depicted by the Examiner as representative of Bauman is clearly distinguishable from Applicants' claimed compounds. More specifically, R₂ as defined in Applicants' claim 1 cannot be an ethoxycarbonyl group (as depicted for R^{1a} in the Bauman structure) and R₃ as defined in Applicants' claim 1 cannot be a 2-(naphth-1-yloxy)ethyl-carbonyl group. Therefore, at least for these reasons, the depicted Bauman species is clearly distinguishable from Applicants' claimed compounds.

Applicants have amended claim 1 to delete the following functionality as a possibility for the variable L₂:



In making this amendment, Applicants believe that they have clearly distinguished Applicants' claimed compounds from the compounds described by Bauman, especially those included at column 31, lines 13 to 14, column 33, lines 51 to 52 and more generally, at column 52, lines 4 to 51. In any case, with this amendment, Applicants believe that a person of ordinary skill in the art would not be motivated by any teaching or suggestion in Bauman to prepare any of Applicants' claimed compounds. Moreover, the compounds described in Bauman are indicated as inhibitors of selected chemokines (e.g., MIP-1a and RANTES) and so would not be considered by persons of ordinary skill in the art for preparation of melanocortin-specific compounds.

5. Allowable Subject Matter

Claims 11 to 15, 30 to 34, 47, 56 and 57 are objected to as being dependent upon a rejected base claim, but are indicated as being allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims.

6. Conclusion


Upon consideration of the foregoing, it will be recognized that Applicants have fully and appropriately responded to all of the Examiner's rejections. Accordingly, the claims are believed to be in proper form in all respects and a favorable action on the merits is respectfully requested.

The Examiner is invited to contact the undersigned with any questions or concerns that may prevent this requested allowance.

Except for issues payable under 37 C.F.R. 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. 1.16 and 1.17 which may be required, including any required extension of time fees, or to credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **constructive petition for extension of time** in accordance with 37 C.F.R. 1.136(a)(3).

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